



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,697	04/04/2002	Takashi Mimura	1061-02	9428

35811 7590 10/13/2006  
IP GROUP OF DLA PIPER US LLP  
ONE LIBERTY PLACE  
1650 MARKET ST, SUITE 4900  
PHILADELPHIA, PA 19103

EXAMINER

VO, HAI

ART UNIT PAPER NUMBER

1771

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/070,697

Applicant(s)

MIMURA ET AL.

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1771

1. All of the art rejections set forth in the 01/30/2006 Final Office Action have been withdrawn in view of the present amendment. None of the applied references teach or suggest a coating layer comprising a copolymer of a resin with a hindered amine. However, upon further consideration, new grounds of rejections are made in view of newly discovered reference to Kamath et al (US 4,927,891).

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 13-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 13 contains an improper hybrid combination. The preamble is directed to a white film while the body of the claim is related to a white film and a coating layer provided at least one surface of the white film.

Claim 19 recites the limitation "the sheet" in line 3. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1771

5. Claims 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyakawa et al (US 5,672,409) in view of Kamath (US 4,927,891). Miyakawa teaches a reflector for surface light sources comprising a white film having a three-layer structure A/B/A wherein the B-layer is made of a polyester resin and contains fine voids (column 6, lines 35-40, example 2). Miyakawa teaches a coating layer on the white film comprising a mixture of acrylic resin, silica particles, and fluorescent whitening agent (example 5). Miyakawa discloses the white film having the degree of glossiness within the claimed range (table 1). Miyakawa teaches the white film is formed from a resin composition consisting essentially of polyester (column 3, lines 25-45). Miyakawa teaches that the voids are formed through melt extrusion of a mixture of a polyester resin, a polyolefin resin, and inorganic particles, followed by stretching the film in at least one direction (column 3, line 59 et seq.). Miyakawa teaches an acrylic coating being applied to the white film. However, Miyakawa is silent as to the coating layer comprising a copolymer of an acrylic resin with a light stabilizer. Kamath, however, a coating material made from an acrylic resin with attached light stabilizing group for stabilization of the coating against thermal and light degradation and for improving the durability and weatherability of the coatings (column 1, lines 5-25). The light stabilizer includes a hindered amine, benzotriazole, benzophenone and combination thereof (claim 1, and column 4, lines 55-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the acrylic resin with chemically attached light stabilizing group for the acrylic resin of Miyawa motivated by the desire to

stabilize the coating layer against thermal and light degradation and provide the coating layer with excellent weather resistance, and improved durability.

Miyakawa does not specifically disclose that the voids in the surface layer are smaller than the voids in the inner layer. However, Miyakawa teaches that the A-layer contains inorganic fine particles and the sheet of the laminated polymers A/B/A is stretched in at least one direction (example 3). It appears that Miyakawa and Applicants are using inorganic particles having similar particle size and present in the same amounts in the A- and B-layers (Miyakawa, column 6, lines 40-42, 60-65 vs. Applicants' specification, pages 10 and 22). Further, Miyakawa is using the same approach to form the voids in the white film. The voids are created around the inorganic particles through stretching. Therefore, it is the examiner's position that the relative void diameter in the A-layer and B-layer would be inherently present because it seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties.

6. Claims 13-17, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al (US 5,710,856) in view of Kamath et al (US 4,927,891). Ishii discloses a light reflective sheet comprising a porous resin sheet and a protective layer laminated on at least one surface of the porous resin sheet (abstract). Ishii discloses that the protective layer contains a light stabilizer component (column 14, lines 45-48, column 8, line 61). Ishii teaches the coating layer further comprising

inorganic fine particles (column 13, lines 60-62). Ishii teaches a light reflective sheet having a light reflectance greater than 85% (table 1). Ishii teaches a porous resin layer comprising a fluorescent brightener (column 8, lines 50-57). Ishii teaches a protective layer made from an acrylic resin. Ishii does not specifically disclose the protective layer containing a copolymer of an acrylic resin and a hindered amine light stabilizer. Kamath, however, a coating material made from an acrylic resin with chemically attached light stabilizing group for stabilization of the coating against thermal and light degradation and for improving the durability and weatherability of the coatings (column 1, lines 5-25). The light stabilizer includes a hindered amine, benzotriazole, benzophenone and combination thereof (claim 1, and column 4, lines 55-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute an acrylic resin with chemically attached light stabilizing group for the acrylic resin of Ishii motivated by the desire to stabilize the coating layer against thermal and light degradation and provide the coating layer with excellent weather resistance, and improved durability.

Ishii does not specifically disclose the degree of glossiness of the light reflective sheet. However, the light reflective sheet of Ishii as modified Kamath is structurally the same and made of the same materials as Applicants' article. It appears that the light reflective sheet of Ishii as modified by Kamath has a light reflectance within the claimed range. Therefore, it is not seen that the modified light reflective sheet would have possessed the degree of glossiness outside the range as claimed by the present invention. This is in line with *Ex part slob*, 157 USPQ 172.

Art Unit: 1771

It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete.

7. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al (US 5,710,856) in view of Kamath (US 4,927,891) as applied to claim 13 above, further in view of Miyakawa et al (US 5,672,409). Ishii does not disclose the porous resin layer being a composite film. Miyakawa, however, teaches a reflector for surface light sources comprising a white film having a three-layer structure A/B/A wherein the B-layer contains fine voids (column 6, lines 35-40, example 2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the porous resin layer in the form of a composite film having a layer construction as taught by Miyakawa motivated by the desire to provide to enhance structural stability of the white film.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HV

*Hai Vo*

**HAI VO  
PRIMARY EXAMINER**